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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

RENDON, CHRISTIAN E

ART UNIT

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3714

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/798,632	Applicant(s) SHUMAN ET AL.	
	Examiner CHRISTIAN E. RENDÓN	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/09/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This office action is in response to the amendment filed December 26, 2007 in which applicant has canceled claims 1-41, added claims 42-59, and responded to the claim rejections. Claims 42-59 are still pending.

Claim Rejections - 35 USC § 103

Claims 42-46, 48-49, 51-53, 55-56 and 58-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graf (4,645,459) in view of Lechner (US 2003/0059743).

1. Regarding claims 42 and 59, Graf discusses an aircraft flight simulation (FS) as one of the many possible applications for the invented system (col. 1, lines 15-17). The FS system contains a visual subsystem for a vehicle simulator (col. 1, line 25) that receives flight data from the FS computer and terrain data from a 'gaming area' database (col. 1, lines 17-21) and creates a scene from the perspective of the pilot in the cockpit of the aircraft (col. 1, lines 21-24). The visual simulator uses the terrain and flight path or vehicle control data (col. 1, lines 36-40) to determine the location and viewing direction of the visual system of the vehicle (col. 7, lines 12-14). The scenes viewed by the pilot can comprise of images that are fictitious or represent real-life places from anywhere around the world (col. 4, lines 40-41). The images are organized into several databases: 2D, 3D-one axis & 3D-two axis (col. 10, lines 38-44) providing the designer a large variety of images. Allowing the designer to incorporate whatever he/she deems necessary for the scene or 'gaming area' (col. 1, lines 20-21). However, Graf remains silent on how or where the designer attains a database of real world images.
2. Lechner discloses a system that automatically generates a terrain model for displaying a predefined mission route (Abstract). The pilot defines the mission route and would use the system disclosed by Lechner to practice their mission (par. 2, lines 1-13). Once a mission is defined by the pilot a terrain model designer must also consider the surrounding area based on the route and the

characteristics of the aircraft like the turning radius and sensor range (par 3, lines 1-11) in order to create a complete and accurate description. The designer has two options for obtaining the information, either fly out to the real world area to obtain images of the mission terrain (par. 6, lines 1-4) a collection process considered time consuming and prone to errors (Lechner: par. 5, lines 8-10). The second option is to obtain the data from a variety of sources: the Joint Services Imaging Processing Station (JSIPS), the Gateway Data Navigator (GDN), the United States Imagery and Geospatial Information Services (USIGS), the Master Environment Library (MEL), weather service feeds, commercial database and the like (Lechner: par. 7, lines 1-8).

3. All of the listed database examples are organizations with an expertise in collecting and maintaining high resolution (Lechner: par. 6, lines 23-26) and accurate images of the real world (Lechner: par. 10, lines 3-6). Therefore Lechner teaches acquiring a database of real world images from a map developer or a organization with an expertise in collecting quality images as a means to save time (Lechner: par. 10, lines 3-6) and money. Furthermore, the Office considers the limitation of providing a template database instead of a source database as obvious since people or business generally like to pay for what they need. In other words, if the game developer requires images of a portion the Andes Mountains located in Ecuador and nothing else, why would they pay for images of the rest of the world? The Earth is a large place and acquiring images of every region would require a large amount of memory and money. On a final note, the storing of a computer game on computer-readable medium for the selling to a gamer is also considered obvious to one of ordinary skill.

4. Regarding claims 43-46, the navigational functions discussed by Graf are vehicle positioning (col. 4, line 55) through rotational data: yaw, pitch and roll, which define the changing attitudes of the aircraft (col. 16, lines 41-43) with respect to a 'gaming area' or map of a fictitious or real world location (col. 4, line 41) at a high level of accuracy and detail (col. 6, lines 55-57). As stated above, the game

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developer or designer includes the necessary images that will properly describe the area accurately (Lechner: par. 3, lines 1-3).

5. Regarding claims 48-49, Graf discloses a computer or manual operator generating the scenes that can contain a variety of objects that represent nature: mountains, lakes, bushes (Graf: col. 10, line 11), rivers, etc (Graf: col. 10, line 24), trees, houses, roads, lights, rocks (Graf: col. 5, lines 22-23). Therefore a person or a computer has the means to display a park. However the prior art fails to disclose displaying a golf course. It would of have been obvious to one of ordinary skill in the art to include a sand trap object in the 2D surface library to further expand the systems ability to create diverse environments.

6. Regarding claim 51, Graf discloses saving an object library of the database containing images and surfaces (Graf: col. 3, lines 31-34) on an optical disc (Graf: fig. 15).

7. Regarding claim 52, Lechner discloses collecting a database of images from other sources in particular a commercial database. Therefore one of ordinary skill would expect a designer to pay or lease for a commercial database even though Lechner fails to mention this detail.

8. Regarding claims 53 and 55-56, Graf discloses operating a vehicle by the controlling the vehicle's operator through a gaming area (Graf: col. 1, lines 36-38) that depicts a battle in either a fictitious or real world setting (Graf: col. 4, lines 39-42). The battlefield contains buildings, tanks (Graf: col. 5, lines 61-62), animals, girls, etc. (Graf: col. 5, line 24), therefore containing characters, game logic and rules, vehicles and programs for rendering (Graf: col. 5, lines 63-67). Furthermore, the database used by Graf is a combination of Computer Graphic Imagery (CGI) and Computer Synthesized Imagery (CSI) resulting in a technology called CGSI. Therefore the database contains 3D images (Graf: col. 6, lines 50-51) that are inserted into a scene as objects (Graf: col. 2, lines 15-21). Finally, the prior art is able to depict city/landscape since the surface databases contain many different roads surfaces, buildings (Graf: col. 5, lines 49-50) and houses (Graf: col. 5, lines 21-24).

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9. Regarding claim 58, the prior art discloses a template database that contains data integrity as in road connectivity. The gaming area contains reference points for locating surfaces and objects (Graf: col. 10, lines 3-4). As a means of producing the desired detailed accuracy (Graf: col. 10, line 25), the operator assigns two (X,Y,Z) coordinates or reference points to define the position and height of a surface (Graf: col. 10, lines 10-24). Therefore if the perspective of the road (Graf: col. 10, line 10) changes so will the reference points (Graf: col. 10, lines 20-22) insuring the integrity of the road connections.

Claims 47, 50, 54 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graf et al. (US 4,645,459) in view of Huston et al. (US 6,146,143).

10. The above description of the combination between Graf & Lechner & the limitations they pertain too are considered with in this art rejection as well. Graf discloses a vehicle simulator and uses the example of an aircraft simulator to describe the invention. However Graf is silent about simulating a ground vehicle like a car or motorcycle as a possible application for the system (Graf: col. 1, lines 15-17).

11. Regarding claims 47 and 50, the 'gaming area' contains geographical features (Graf: Fig. 1) like natural structures like 2D rivers or man-made structures like 3D buildings. The operator of the system is able to create a scene from the perspective of the pilot in the cockpit of the aircraft (Graf: col. 1, lines 21-24). The scenes are constructed in three phases: land, water and sky surfaces (col. 5, line 20). Graf discloses the surface library containing different road surfaces (Graf: col. 5, lines 50). A scene can consisting of roads of different widths and shaped in any direction the user or computer sees fit since either the computer or a manual operator create the scenes (Graf: col. 10, lines 7-10; col. 7, lines 1-8). In other words, the operator is able to manipulate or transform the size, position, rotation, etc of roads, creeks, railroads, streets, etc. based on the control functions (Graf: col. 8, lines 14-21). However not every scene makes use of all the available objects therefore the final results of a

'gaming area' or a template (Graf: col. 1, lines 20-21) database is a smaller set of data compared to the main or source database.

12. Houston discloses a ground vehicle simulator able to create a traffic event on a roadway during various types of weather conditions (Houston: Abstract). The system can create various types of roads: highways, rural roads, city streets, etc and accurately simulate the features associated with these roads (Houston: col. 4, lines 44-49) like the density, shape, and width of the road. Houston also discloses lane dividers (Houston: Fig. 7), lane strip markings (Houston: Fig. 6), curbs, sidewalks and crosswalk (Houston: Fig. 6), pavement (Houston: Fig 7), 3D cityscape and landscape (Houston: Fig. 5-7), and fog or clouds (Houston: col. 2, line 50). Houston discloses that the driver must conform to the relevant traffic rules (Houston: col. 5, lines 32-35) and even though traffic signals, signs and speed bumps are not specifically mentioned they are items that are associated with the roads (Houston: col. 4, lines 44-49), which are necessary to test the user's knowledge of the traffic laws and etiquette. It would have been obvious to one of ordinary skill in the art to combine the teaches of Houston as a means to establish the necessary items needed to simulate a ground vehicle into the system disclosed by Graf in order to further expand on the possible applications for the Graf system.

13. Regarding claims 54 and 57, Houston discloses a pavement (Houston: Fig 6-7), however fails to mention anything about the pavement's color. It would have been obvious to one of ordinary skill to color the pavement to help the driver further distinguish the road from the sidewalk and identify the dividers (Fig. 7). Furthermore, Houston discloses images of a city and mentions simulating roads of various kinds in a realistic manner. However is silent about displaying lampposts, fences, shrubbery, and lawns. It would have been obvious to one of ordinary skill in the art to include these items when the system is simulating a road in the suburbs.

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Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTIAN E. RENDÓN whose telephone number is (571)272-3117. The examiner can normally be reached on 9 - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on 571-272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CHRISTIAN E RENDÓN
Examiner
Art Unit 3714

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